

certain, as Small has seen the type. Trelease's transfer of the name to what is now *O. grandis* was an error. The *O. corniculata*, var.? *macrantha* Trelease was incompletely understood, as the author himself indicated by the question mark. It probably included some specimens of the western *O. Wrightii*, var. *pilosa* as well as the eastern type. The variety was described as having the branches i. e. the upright stems?) pilose. Specimens in the Gray Herbarium marked var. *macrantha* by Trelease have hirsute or pilose stems. Small based his species *O. macrantha* on the var. *macrantha* of Trelease and described the stems as "hirsute" and petioles "pubescent like the stem." Later however he described *O. hirsuticaulis* as having "densely hirsute" stems, and the petioles "villous-hirsute," at the same time transferring the name *O. macrantha*<sup>1</sup> to a plant with "strigillose" stems and "strigillose" pedicels. *O. macrantha* rather than *O. hirsuticaulis* is therefore the proper name for the hirsute form of *O. recurva*. The original description of *O. Priceae* Small also agrees with our var. *macrantha*, as do two specimens of *O. Priceae* in the Gray Herbarium collected by Miss Price. Small states<sup>2</sup> that a pubescent corolla has been found by him only in *O. Priceae* among the yellow flowered species of *Oxalis*. The specimens of var. *macrantha* cited above all have some hairs on the corolla.

CORNELL UNIVERSITY, Ithaca, N. Y.

---

## A WHITE FORM OF DELPHINIUM AJACIS.

R. H. CHENEY.

DURING the summer of 1924, while collecting representative types of New England flowering plants for the Washington Square College Herbarium at New York University, I found two localities where a pure white growth of *Delphinium Ajacis* L. was abundant. Both areas were wet, waste ground. The first growth was noted in Forest Hills, Massachusetts, on July 24, 1924. The other station was in Raymond, New Hampshire, on August 13, 1924.

The genus *Delphinium* includes only two unipistillate species in the United States; namely,—*D. Ajacis* L. (Rocket Larkspur), with pubescent follicles and *D. Consolida* L. (Field Larkspur), with glabrous

<sup>1</sup> Fl. S. e. U. S. 667 (1903).

<sup>2</sup> Bull. Torr. Bot. Club xxv. 613 (1898).

follicles. Several authorities, including Dr. Small,<sup>1</sup> mention a white-flowered *D. Consolida* L. but only one authoritative flora<sup>2</sup> of the United States records *D. Ajacis* L., to which these specimens undoubtedly belong, as having white flowers. Britton and Brown's record is "rarely white."

Mr. Bayard Long<sup>3</sup> clarified the confusion existing in American floras between *D. Ajacis* L. and *D. Consolida* L. The common Rocket Larkspur, which has been an escape from cultivation in this country at least since 1814, has been described in all early floras as having smooth follicles. Pursh's Flora (1814); Nuttall's Genera (1818); Eaton's Manual Bot. ed. 5 (1829); Torrey & Gray in 1838; and Gray's Man. Bot. ed. 1 (1848), all described the common Larkspur escape as *D. Consolida* L. Darby<sup>4</sup> recorded the plant, *Delphinium Consolida* L., as having smooth or pubescent follicles. Gray (Watson & Coulter ed.) Man. Bot. (1890) was the first record in American floras to distinguish the pubescent-follicled plant as *D. Ajacis* L. in agreement with the European species description. *D. Consolida* L., however, remained in the floras as a common species although only five American herbarium sheets substantiate its existence. Dr. Britton states clearly in Britton & Brown Illust. Fl. (1914) that all specimens examined at that time proved to be *D. Ajacis* L. My examination of the same and additional material at the N. Y. Botanical Garden, verified the statement and also showed that no *pure* white specimens were present.

This unipistillate, pubescent species is normally a blue-flowered plant although the flowers are commonly faded to a very considerable degree, especially the older flowers of the raceme, and frequently only a trace of color persists. Such a trace, however, was found to be present in all cases with the exception of one Virginian specimen which appeared to have been distinctly white. A brief statement concerning the essentially white-flowered specimens in the N. Y. Botanical Garden Herbarium follows:—

One European specimen—nearly white; collected in 1868.

Another European specimen—bluish tinge; collected in 1839 by Rev. J. G. Leefe.

Roanoke, Virginia specimen—bluish and pink tinge on the same plant. Collected in 1890.

<sup>1</sup> Small Fl. So. East. U. S. (1903) 433.

<sup>2</sup> Britton & Brown Illust. Fl. No. U. S., Canada, etc. ed. 2, 2 (1913) 94.

<sup>3</sup> Long *Delphinium Consolida* L. in Amer., etc., in RHODORA No. 212, 18 (1916) 169-177.

<sup>4</sup> Darby Bot. of the So. States (1859) 207.

Beleu, El Paso Co., Texas—One small specimen with only two flowers. These were whitish. Collected in June 1893 by Dr. E. A. Mearns.

Independence, Missouri specimen—pinkish-white; collected in June 1895 by B. F. Bush.

Sand Hills, Augusta, Georgia—Spur bluish; collected by A. Cuthbert. No date given.

Blacksburg, Virginia specimen—In full flower and distinctly white; collected in June 1895 by Dr. W. A. Merrill. This specimen is undoubtedly *D. Ajacis* L., and I believe it represents another locality for the form which is given here as new.

Winfield, Kansas specimen—bluish tinge; collected in April 1898 by Mark White.

Pictou, Nova Scotia specimen—Slight pink tinge on spur; collected in August, 1906 by C. B. Robinson.

Cumberland River region, Western Kentucky specimen—pinkish-white; collected in June 1909 by W. W. Eggleston.

Several other American records in respect to essentially white *Delphiniums* occur in the literature but they prove to be either copied statements from earlier works or to be horticultural hybrids. Bailey<sup>1</sup> describes the *D. Ajacis* L. perianth as 'varying to white.' Davis<sup>2</sup> also records the flower color by the same wording. The Amer. Comm. Hort. Nomen. on Standard Plant Names (1923) 123, mentions a so-called 'White Siberian *Delphinium*.' This is, however, a hybrid or at least a horticultural form of *D. grandiflorum*, not *D. Ajacis* L. The Gray Herbarium and the Herbarium of the New England Botanical Club have no *pure* white specimens of *D. Ajacis* L.

A study of European floras for their descriptions of *D. Ajacis* L. reveals the same generalization regarding the perianth color as 'whitish, rarely white' etc., as is found in our American floras. In many instances, I suspect, the statement is merely a copy from earlier works. Coste, *Flore de la France* 1 (1901) 49, records the flowers of *D. Ajacis* L., as blue, pink or white. Gillet & Magne, *Nouv. Flore Française* (1883) 17, mention the perianth as colored; Grenier & Godron, *Flore de France* 1 (1848) 47, as blue, white or pink; Rouy & Foucaud, *Flore de France* 1 (1893) 131, as blue, pink or white; Thomé's *Flora von Deutschland* 2 (1886) 122 as blue, white or red; Bentham, *Brit. Flora* ed. 4 (1878) 15, as blue, white or reddish; Sowerby, *Engl. Bot.* 1 (1899) 62, as bright French blue, more rarely white or pink, paler on the outer side; Hegi, *Illustrierte Flora von Mittel-Europa* 3 (1909–13) 488, as blue-violet, rarely pink or white. Examination of the European specimens, however, in the herbaria of the N. Y. Botanical Garden, of the Brooklyn Botanic Garden, and of the Gray Herbarium showed no *pure* white specimens.

<sup>1</sup> Bailey *Cycl. Hort.* 2 (1914) 976.

<sup>2</sup> Davis, K. C. *Taxon. Study of No. Amer. Ranunc.* (1900) 435.

As a pure white growth of *D. Ajacis* L. was found in two states in New England during the summer of 1924, and since all available herbarium records, with the possible exception noted above, show traces, at least, of color, these specimens seem to represent a true form which is as well established locally in New England as the species itself. Both are escapes. I have named the form,—DELPHINIUM AJACIS L. forma **alba**, forma nova.

WASHINGTON SQUARE COLLEGE, NEW YORK UNIVERSITY,  
*New York City.*

---

### BIDENS EATONI AND ITS VARIETIES.

NORMAN C. FASSETT.

It frequently happens that, on the mouths of rivers, the influence of the tide extends farther up the river than does the salt water. The plants growing on these river shores will, therefore, alternately be submerged by fresh water and exposed to the sun. The part of the river where this phenomenon occurs is called the estuary. *Bidens Eatoni* was described in 1903 from the estuary of the Merrimac River, and has been shown by subsequent investigation to be a strictly estuarine species, on the mouths of several rivers from the Hudson to the Kennebec. It is remarkable that on each estuary where this species appears it occurs in a slightly different phase, that is, it shows a great development of endemic varieties.

*Bidens Eatoni* is most closely related to *B. bidentoides*, *B. connata*, and *B. heterodoxa*, all of which are characterized by having striate achenes which are, at least at the base, upwardly barbed along the margins, and simple leaves which are often deeply 3-cleft. From the two latter species *B. Eatoni* and *B. bidentoides* differ in having less than 30, usually 8–25, flowers to each cylindrical to campanulate head, as opposed to 30–60 flowers in the heads of *B. connata* and *B. heterodoxa*. *B. bidentoides*, which has copiously pubescent achenes, plano-convex in cross-section, without conspicuous midribs, and with very slender awns (at least  $\frac{1}{2}$  as long as the body of the achene), is at once distinguished from *B. Eatoni*, with its sparingly pubescent, flat to bi-convex achenes, with conspicuous midribs and stout awns.

*Bidens Eatoni* breaks up into varieties as follows: